

FINAL

CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT

Work Assignment 053

City of Hornell Water Treatment Plant

Hornell, NY

GENERAL INFORMATION

Stationary Source	City of Hornell Water Treatment Plant
Date of Inspection	July 7, 2003
USEPA Auditor	Ellen Banner, USEPA – Region II
Contractor	Neil Mulvey, Environmental Compliance Inc.
Description of Activities	<ul style="list-style-type: none">• Opening meeting with facility representative.• Program audit.• Closing meeting with facility representatives. Program audit consisted of the following activities: <ol style="list-style-type: none">1. Document review.2. Field verification.3. Personnel interviews.

STATIONARY SOURCE INFORMATION

EPA Facility ID #	1000-0016-9532
Date of Initial Submission	May 15, 2000; The facility reported that modifications to the chlorine system resulted in the addition of an additional 1-ton cylinder, exceeding the TQ for chlorine.
Facility Location	Filter Plant Road Hornell, NY 14843 Steuben County
Number of Employees	4 employees
Description of Surrounding Area	Rural/Commercial
Participants	Leonard Fucci, Chief Operator* Charles McCormack, Operator Anthony Sciotti, Operator * Lead Participant

REGISTRATION INFORMATION

Process ID #	9997 - Chlorination
Program Level (as reported in RMP)	Program 3
Process Chemicals	Registered with 4,000 lbs. of chlorine. Chlorine used in the treatment of potable water.
NAICS Code	22131 (Water Supply and Irrigation Systems)

GENERAL COMMENTS

The City of Hornell owns and operates a water treatment plant, located in a rural / commercial area in Hornell, NY. The facility is surrounded by woods to the north, west and south sides. An EconoLodge motel is located to the east. The facility entrance is located off a driveway shared with the EconoLodge. The motel is located less than 0.25 miles away.

The water treatment plant uses chlorine to disinfect water before it is pumped into the distribution system. Reservoirs located approximately 3.5 miles away supply the raw water. Water treatment includes aeration, coagulation and sedimentation, filtration, and chlorination. Chlorine is added after filtration and prior to the clear well. The facility is designed to treat a maximum of 3 million gallons per day (MGD), but averages 2.4 - 2.5 MGD. At the time of this inspection, chlorine inventory included two 1-ton cylinders. One cylinder is feeding chlorine gas and one is on standby, with automatic switchover. Additional inventory included six 150-lbs. cylinders of chlorine. One 150-lbs. cylinder was on-line and five were in storage. The 150-lbs. cylinders are used for emergency back-up at the treatment plant and for emergency treatment at a separately located well site. The inventory at the well site was reported to be no more than four 150-lbs. cylinders (well under the threshold quantity of 2,500-lbs.). The facility uses approximately 55-60-lbs./day of chlorine, and a maximum of 80-lbs./day. Hornell currently receives chlorine from Jones Chemical, receiving a delivery of two 1-ton cylinders every 4-6 weeks.

The Chief Operator is assigned as the manager responsible for RMP implementation. The Chief Operator reports to the City of Hornell Superintendent of Public Works. Operations staff includes the Chief Operator and three Operators. The facility is normally staffed one or two shifts per day, with no operators on-site during evenings and weekends. Employee turnover is low (i.e., three Operators with over 30 years and one Operator with over seven years). The facility operates 24-7.

Chlorine is delivered by truck in 1-ton or 150-lbs. cylinders. Cylinders are unloaded and stored in the chlorine room. The chlorine room stores chlorine cylinders and also houses the chlorine scales. The system has two chlorine scales, with one cylinder per scale.

Two chlorinators are located in an adjacent room. The chlorine system is positive pressure to the automatic switchover device located in the chlorine room. Downstream of the switchover device the chlorine delivery system operates under a vacuum.

At the time of this inspection, the total on-site inventory of chlorine was:

Two 1-ton cylinders	=	4,000-lbs.
Six 150-lbs. cylinders	=	900-lbs.
TOTAL chlorine inventory	=	4,900-lbs.

The facility registration shows 4,000-lbs.

Safety system include a chlorine detector in the chlorine room, set to start a ventilation fan and trip a warning indicator (i.e., light) at 0.5 ppm.

RMP DOCUMENTATION

The facility did not have written procedures for many of the required RMP program elements. When interviewed, facility management displayed minimal understanding of the RMP requirements and intent of RMP. The City of Hornell had originally retained a consultant out of Rochester, NY to assist in developing the RMP.

The facility is subject to OSHA's Process Safety Management (PSM) standard. Since the facility is subject to OSHA's PSM rule, and since modeling identified a potential public receptor impact for the worst case scenario, the facility is subject to Program 3 requirements.

Comments regarding select RMP elements follow:

Management System

The Chief Operator is assigned as the RMP responsible manager. Three Operators report to the Chief Operator. There is no written description of a management system.

Process Safety Information (PSI)

PSI includes a chlorine MSDS, vendor equipment information, and a schematic (P&ID) of the chlorine distribution system dated August, 1997. The P&ID is out of date and not representative of the current system.

Process Hazard Analysis (PHA)

There is no record of a completed PHA study.

Standard Operating Procedures (SOPs)

The facility has the following written SOPs:

- Procedure for Changing One Ton Chlorine Cylinders
- Chlorine Room and Equipment Inspections
- Emergency Response Plan for Chlorine Leak

The SOPs are not dated, have no record of annual review/certification, no reference to required PPE, no discussion of the chlorine detectors or ventilation system (i.e., safety systems). See Attachment 1 for a copy of the SOPs.

Training

The facility has no written operator training program. The facility does however conduct regular safety meetings to discuss safety and operational related topics. The facility only employees four Operators. There is very low employee turnover. Attendance at the safety meetings is recorded (see Attachment 2).

Mechanical Integrity

There is no written mechanical integrity program. The facility does perform daily and monthly equipment inspections and uses a checklist for documentation of completion (see Attachment 3).

Management of Change (MOC)

The facility has no written MOC program.

Pre-Startup Review (PSR)

The facility has no written pre-startup review (PSR) procedure.

Compliance Audits

The facility has no written procedure for conducting RMP compliance audits. Based on the submission date of May, 2000, the first compliance audit was due May, 2003. There has been no compliance audit conducted.

Incident Investigation

The facility has no written procedure for incident investigations. The facility reported that there has been no chlorine release in over 30-years.

Employee Participation

The facility has no written employee participation program.

Hot Work Permit

The facility has no written hot work permit program.

Contractor Safety

The facility has no written contractor safety program. Facility management reported that there is limited use of contractors who work on or near the chlorine system.

Emergency Response

Hornell's emergency response plan was reviewed by the USEPA inspector. The facility relies on the City of Hornell Fire Department in the event of a significant chlorine release. The City Fire Department has not received training specific to chlorine release response. See Attachment 4 for a copy of Hornell's Emergency Response Plan.

Facility Tour

During the facility tour, the following observations were noted:

- The emergency exhaust fan (located 36" from the floor) in the chlorine room was tested and is operational.
- An emergency relief vent for the regulator overpressure is vented to an area outside the double-door entrance to the chlorine room. The relief vent is positioned such that chlorine would vent down in the direction of people at the doorway entrance. **The facility should consider re-piping this emergency relief vent to a safe location, away from possible employee exposure.**
- The facility has one chlorine "A" kit (150-lbs. cylinders), one chlorine "B" kit (1-ton cylinders), and three SCBAs on-site for emergency use. Facility management is unsure as to the conditions of when Operators would use the kit in an emergency situation. **The facility should consider and clearly establish the parameters in which an Operator would use the chlorine kits in response to a chlorine release. The facility should ensure that the Operators receive training requisite with the level of emergency response expected.**
- The 'head' of the 1-ton chlorine cylinders situated on the weigh scales in the chlorine room is approximately three-feet from the wall. **The facility should review equipment spacing in the chlorine room to determine if adequate space is available for access to valves located on the cylinder head in the event of an emergency.**

FINDINGS/RECOMMENDATIONS

- ❑ The RMP registration lists a maximum chlorine inventory of 4,000-lbs. At the time of this inspection, the actual inventory was 4,900-lbs. **The facility should revise its RMP registration to list the maximum potential chlorine inventory on-site at any time.**
- ❑ The facility has no written description of its RMP management system. **The facility should develop a written management system description. Suggest that facility personnel be trained on the requirements of RMP.**
- ❑ The facility does not have a compilation of required process safety information (PSI), including updated P&IDs. **The facility should compile PSI, as required by the RMP §68.65.**
- ❑ There is no record of a completed process hazard analysis (PHA) study. **The facility should conduct an initial PHA, in accordance with §68.67.**
- ❑ The facility has three written standard operating procedures (SOPs). The SOPs, however, are not dated, have no record of annual review/certification, no reference to required PPE, no discussion of the chlorine detectors or ventilation system (i.e., safety systems). **The written procedures should be modified and managed to comply with the requirements of §68.69.**
- ❑ While the facility does conduct regular safety meetings, there is no written operator training program addressing initial and refresher training. **The facility should develop a written operator training program in accordance with the requirements of §68.71.**
- ❑ While there is no written mechanical integrity program, the facility does perform daily and monthly equipment inspections and uses a checklist for documentation of completion. **The facility should develop a written description of its mechanical integrity program, in accordance with §68.73.**
- ❑ The facility has no written management of change (MOC) program. **The facility should develop a written MOC program, in accordance with the requirements of §68.75.**
- ❑ The facility has no written pre-startup review (PSR) procedure. **The facility should develop a written PSR procedure, in accordance with the requirements of §68.77.**
- ❑ The facility has no written procedure for conducting RMP compliance audits. Based on the submission date of May, 2000, the first compliance audit was due May, 2003. There has been no compliance audit conducted. **The facility should conduct its first three-year RMP compliance audit, in accordance with §68.79.**

- ❑ The facility has no written procedure for incident investigations. **The facility should develop a written procedure for conducting incident investigations, in accordance with the requirements of §68.81.**
- ❑ The facility has no written employee participation program. **The facility should develop a written employee participation program, in accordance with the requirements of §68.83**
- ❑ The facility has no written hot work permit program. **The facility should develop a written hot work permit program, in accordance with the requirements of §68.85.**
- ❑ The facility has no written contractor safety program. **The facility should develop a written contractor safety program, in accordance with the requirements of §68.87.**
- ❑ Hornell's emergency response plan was reviewed by the USEPA inspector. The facility relies on the City of Hornell Fire Department in the event of a significant chlorine release. The City Fire Department has not received training specific to chlorine release response. **The facility should ensure that adequate, trained response is available in the event of a significant chlorine release.**

LIST OF ATTACHMENTS

1. Standard Operating Procedures, City of Hornell Water Treatment Plant, Hornell, NY.
2. Attendance Sheet, Operator Training, City of Hornell Water Treatment Plant, Hornell, NY.
3. Monthly Maintenance Report - June 2003, City of Hornell Water Treatment Plant, Hornell, NY
4. Emergency Response Plan / Spill Plan, Updated 1/9/03, City of Hornell, Hornell, NY.